# COGNITIVE FRAMES IN PSYCHOLOGY: DEMARCATIONS AND RUPTURES

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This article looks at the main symptoms of the crisis in psychology. The author believes that in addition to the traditional manifestations that have dogged psychology since it emerged as an independent science, there have appeared some new symptoms. The author identifies three fundamental "ruptures": "vertical" ruptures between various schools and trends, "horizontal" ruptures between natural science and humanitarian psychology and "diagonal" ruptures between research (academic) and practical psychology. In the author's opinion, these manifestations of the crisis of psychology have recently been compounded by the crisis of its rationalistic foundations. This situation is described in terms of the cognitive systems in psychology which include: 1) meta-theories; 2) paradigms; 3) sociodigms and 4) metadigms.

## Permanent crisis

One of the key features of the methodological self-consciousness of psychology that has accompanied it since its first steps is a permanent sense of crisis invariably registered since the times of W. James (James, 1890; etc.). The following are the commonly noted symptoms of the crisis:

- the disjointed character of the psychological science, a lack of conceptual unity;
- lack of a single universally shared theory;
- the mosaic-like and unsystematic character of psychological knowledge;
- lack of universal criteria of verification and authenticity of knowledge;
- non-cumulative nature of knowledge, with each new psychological trend declaring all the preceding psychology to be a collection of misconceptions and artifacts;
- separation of the whole personality into memory, thought, perception, attention and other mental functions, each leading a strange independent existence;
- various "parallelisms"-psycho-physical, psycho-physiological, psycho-biological and psycho-social - which psychology feels unable to resolve for itself, "puzzles," to borrow T. Kuhn's words (Kuhn, 1962); and others.

True, at least three circumstances mitigate the permanent sense of crisis. First, in terms of their attitude to methodology psychologists may be divided into 4 main categories: 1) those who are largely indifferent to general methodological issues; 2) methodological rigorists who adhere to traditional, largely Positivist, research standards; 3) methodological anarchists generally sharing Paul Feuerabend's "anything goes" credo; and 4) methodological liberals who combine post-modernists and more traditional research approaches. By far the largest number of psychologists belongs to the first group, which makes the psychological community not very sensitive to the "eternal" methodological problems of psychology. Secondly, psychologists have got used to its permanent crisis which they often perceive as the normal state of their "abnormal" science. This sentiment, among other things, strengthens the long-standing conviction of the "special path" of psychology whereby its status cannot be assessed by comparing it to the natural sciences regarding their dissimilarity as a manifestation of the crisis of psychology (Gergen, 1994, etc.).

Third, psychology's methodological discourse expresses a kind of "poetics" of crisis, perceived in a positive light as something that stimulates the development of the psychological science, makes it more perceptive of methodological problems, etc., which prevents a sense of permanent crisis degenerating into a sense of permanent frustration. Studiedly optimistic statements such as "it is unclear whether there was a crisis or not, but it's good it's over" (McGuire, 1976) have gained some currency.

Even so, in spite of the circumstances that mitigate the sense of crisis much of the psychological community is highly sensitive to it, and not so much to the symptoms mentioned above but to the lack of progress in overcoming them. Assessments of the general methodological status of psychology given by W.

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James, K. Buhler and others more than a hundred years ago do not differ much from the modern assessments. Thus, any present-day psychologist would probably go along with W. James' contention that psychology is reminiscent of physics before Galileo: there is not a single universally recognized fact nor a single universally shared generalization (James, 1890). Lack of progress in overcoming the crisis puts into question the progress of psychological science in general, questions that cannot be overcome even by such glib statements as the following: “a century of psychological research has advanced tremendously our understanding of human behavior” (Huffman, Vernoy, Vernoy, 1994, P. VI). The crisis is compounded by the fact that in addition to the above mentioned cognitive symptoms which manifest the state of psychological knowledge there are social symptoms that reflect the status of the psychological community and its social environment. The “vertical”[1] disunity of psychology - with various schools such as cognitivism, behaviorism, and psychoanalysis, "horizontal" division into natural-scientific and humanitarian psychology and "diagonal" division into research and practical psychology is compounded by the watering down of the foundations of scientific rationality, which in turn affects the cognitive status of psychology (Table 1).

**Table 1**

**Cognitive Systems in Psychology**

| Types of cognitive systems | Constituent characteristics | Examples |
|---|---|---|
| Meta-theories | Understanding and explaining the psyche, approach to its study, etc. | Cognitivism, behaviourism, psychoanalysis, etc. |
| Paradigms | Vision of the subject matter of psychology, methods of solving its "puzzles", etc. | Natural-scientific and humanitarian psychology |
| Sociodigms | Interdisciplinary communities | Research and practical psychology |
| Metadigms | Types of rationality | Western science, Eastern science, para-science, religion, etc. |

## “Horizontal” Rupture

The division of psychology into various schools that look like psychological empires is one of the commonly known symptoms of the permanent crisis of psychology. The number of “psychological empires[2] keeps growing as new “states within the psychological state” such as social constructionism, dialectical psychology, etc. are added to the traditional ones such as cognitivism, behaviorism, and psychoanalysis (Smith, 2001). The proliferation of schools of thought that cannot find a common language (Ohlsson, 2007) is a great irritant to psychologists who seek to unite these schools in larger “types of psychology” such as “German-Austrian” and “North-American psychology” (Toomela, 2007). It multiplies the number of horizontal demarcation lines within the psychological science. Such demarcations of the psychological science are reproduced and consolidated in psychological practice because its main areas of research give rise to corresponding trends in practical psychology. The feeble unification trends, far from diminishing, tend to increase entropy because their product as a rule is new, independent research currents that bear little resemblance to their "progenitors".

[1] Right off, the author stresses the ad hoc character of this "topography" which performs purely illustrative functions.

[2] It is highly symptomatic that T. Kuhn described scientific schools as "battle units of pre-Paradigmal science" (Kuhn, 1962).

The main challenges in the way of integration of psychology spring not so much from the multiplicity of schools and trends arising on the basis of psychological meta-theories, as from their incommensurability, to use T. Kuhn's term. Each "psychological empire" lives according to its own laws including the rules of generating psychological knowledge, criteria of its authenticity, verification methods, etc. Meanwhile, the psychological meta-theories that underlie research trends are "more than theories". C.H. Franklin rightly notes that psychological theories are rules which prescribe what the researcher should do and how (Franklin, 1982), i.e. psychological theories effectively perform paradigmal functions.

Naturally, most psychological theories generate a huge body of empirical studies carried out on their basis and such publications as Psychological Abstracts bring together both under the heading of "theory". And, as is well known, the results of empirical studies inspired by this or that psychological theory are usually interpreted on the basis of that theory, thus repeatedly reproducing the "methodological circle" described by K. Danziger (Danziger, 1985). As a result the so-called "crucial experiments" designed to establish which of the conflicting theories is the right one turn out to be largely ineffective because empirical data are interpreted in terms of one of the theories being "verified," which inevitably they confirm. Contrary to Thomas Huxley's dismal statement that "the great tragedy of science is that an ugly fact can kill a beautiful theory" (Huxley, 1902, p. 63) facts *per se* are unable not only to "kill" a psychological theory, but even to seriously damage it.

To add to the picture, the majority of psychological theories have an "upper" and "lower" tie-ins: the "upper" being the underlying philosophical ideas of the nature of man and society and the "lower" having to do with the personal and psychological traits of their authors. As L. Hjelle and D. Ziegler stress, all the theories of personality are based on certain philosophical premises regarding the nature of man (Hjelle, Ziegler, 1992). For example, psychoanalysis adheres to a "gloomy concept of the human nature" (Ibid.) which flows from Freud's study of mentally disturbed people, and humanitarian psychology is wedded to the idea that man is inherently good and capable of self-improvement (Ibid.). L. Hjelle and D. Ziegler emphasize the "lower-end" tie-in of psychological theories regarding the need to explain it as a general methodological principle and claiming that in order to understand the principles preached by this or that student of personality one needs information about his/her religious and social-economic status, the size of his/her family and the sequence of their birth, relations with parents, education and professional experience (Ibid.). Earlier the idea was expressed by B. Eiduson who believed that the theories of human nature are less an intellectual means of expressing the objective reality than the psychological traits of its authors (Eiduson, 1962). And J. Richards stressed that the theories any science develops bear the footprints of the personality of their authors, but that there is not a single scientific discipline in which the link stands out in such bold relief as in psychology (Richards, 1987). Not surprisingly, to borrow an apt metaphor from Agnew and Pyke, scientific research is similar to a love affair, and rejection of a once recognized theory is akin to jilting a sweetheart and requires more than just negative information about the sweetheart (Agnew, Pyke). As a result, psychological theories are not just "more", but "much more" than theories, at least much more than the term means in natural sciences, and the theoretical disunity of psychology is something more than the coexistence of various concepts within that science.

In addition to the "upper" and "lower" tie-ins, one can identify many intermediate ties of psychological theories, for example, their social and cultural roots. As noted by K. Huffman, M. Vernoy, J. Vernoy, "Until relatively recently, most psychological research was conducted in Europe and North America. It is from this research that theories of human behavior have been formulated" (1994, p. 12). European theories have pronounced distinctions from North American ones (greater emphasis on social determination of human behavior, etc.), and, for example, the theories born behind the Iron Curtain, such as the theories of L. Vygotsky and others, are even more peculiar. But even in the absence of an Iron Curtain, the social and cultural features of psychological science are very pronounced. For example, this science in Japan reveals some striking differences from its West European or North American counterparts (Takasuna, 2007). In turn, West European, for example German-Austrian, psychology differs from that in North America (Toomela, 2007), and the popular thesis that science has no national borders, while useful in ideological terms, significantly distorts the true state of affairs when applied to social and humanitarian disciplines.

The incompatibility (to use T. Kuhn's term) of the theoretical systems °f psychological knowledge is connected with its pronounced non-cumulative character. To be sure, even the natural-scientific disciplines, which are relatively well-off in cognitive terms, are cumulative only to a limited degree while the concept of the cumulative nature of science seems to have been discarded after its very foundations were undermined by the works of T. Kuhn, I. Lakatos and others. However, the non-cumulative character of the psychological science is also "much more than non-cumulative character": new systems of psychological knowledge are typically built "from scratch" while all the preceding psychological knowledge is either ignored or at best is treated as a collection of instructive mistakes. Although social science, as stressed by D.T. Campbell, needs mutual criticism, repeat analysis of the phenomena revealed and cross-validation more than physical science because the representatives of social sciences and humanities have more limited possibilities of isolating the phenomena studied experimentally; the data they obtain are generated by people who have a great interest in obtaining a certain result; they work in areas in which interest in a certain result is so great that objective description of facts becomes an insignificant motive, etc. (Campbell, 1988).

The boundaries between schools in psychology are not of course impenetrable and the mutual cross-pollination and eclecticism of explanatory schemes, inevitable in any science, contribute to overcoming them. As noted by K. Huffman, M. Vernoy and J. Vernoy, "most psychologists take an eclectic approach, using principles and techniques from different perspectives" (1994, p. 33). That mitigates, but does not eliminate the "horizontal" cleavage of psychological science which still lends a mosaic and unsystematic shape to psychological knowledge.

## "Vertical" Rupture

There exist three main positions regarding the paradigmal status of psychology. According to the first position, adhered to by T. Kuhn who introduced the concept of "paradigm", psychology is a *pre*-paradigmal discipline which has yet to form a single paradigm capable of integrating different "psychologies" into a single science, which sets it apart from the more developed natural sciences. According to the second position, psychology is a *multi*-paradigmal science which is doomed to the coexistence of various paradigms and hence fundamentally different concepts of the psyche, approaches to its study, methods of knowledge reproduction, criteria of its verification, etc. In accordance with the third position, psychology is an *extra*-paradigmal discipline and the ideas about the paradigmal logic of the development of science based on the history of natural sciences, mainly physics (it will be recalled that T. Kuhn was a physicist by training) do not apply to it.

The prevailing position in the psychological community is the second position, with the concept of paradigm used very loosely, the responsibility for which (if it is seen as a failure of the methodological reflection in psychology) attributable not only to psychologists, but to T. Kuhn himself because he failed to clearly define the concept he introduced. At the same time psychologists seem to sense that such approaches do not quite correspond to this concept, which accounts for the recent tendency to regard only natural-scientific and humanitarian psychologies relevant paradigms[3], a division that has existed in the discipline since its first steps.

J. Pinel traces the origin of the divergence between them to the conflict between the Catholic Church and science which came to a head in the 17th century and was resolved by Descartes by dualistically dividing man into the physical man governed by the laws of nature and the spiritual man who has a divine origin (Pinel, 1993). Such "duality" is characteristic to a large extent of most social and humanitarian disciplines, which however, is poor consolation to psychology. It fails to express the universal characteristic of human thought and belongs primarily to the Western intellectual culture. M. Granet, for example, sets up Chinese thought as a model to emulate: "The greatest merit of Chinese thought is that it never separated the human from the natural and always conceptualized human in a social context" (Granet, 1961, p. 1101).

[3] Perhaps these types of psychological study can be more usefully described as *meta-paradigms* because the concept of "paradigm" clearly does not offer sufficient differentiating capacity to tell apart the main types of psychological research, and the complementary term "meta-paradigm" is successfully used in sciences related to psychology, for example, sociology.

It is hardly possible to draw a rigorous dividing line between the natural-scientific and humanitarian paradigms in psychology. Many works on psychology include both natural-scientific (quantitative data) and humanitarian (liberal interpretation of the data) elements, and many psychologists alternately resort to one or the other type of discourse formulating their texts in accordance with the canons of natural science while in their oral presentations adhering to the humanitarian tradition. However, the softer distinguishing features of paradigms have been formulated with a fair degree of clarity. The humanitarian paradigm is thought to differ from the natural-scientific paradigm in 6 key ways: 1) renunciation of the cult of empirical methods; 2) recognizing as scientific not only verified knowledge confirmed by the empirical experience "outside the subject"; 3) legitimization of the researcher's intuition and common sense; 4) possibility of generalizations from anecdotal evidence; 5) the unity of research and practical influence; 6) the study of the whole personality in the "life context" (the Social Psychology of Knowledge, 1988). However, such criteria of differentiating paradigms have come in for well-deserved criticism. One has the impression that this approach identifies the natural-scientific paradigm with its Positivist variant, while everything that does not fit into its Procrustean bed is relegated to humanitarian psychology.

The list of the demarcation criteria can be enhanced by adding the orientation of the natural-scientific paradigm towards explaining psychological phenomena and of the humanitarian one to understanding them; the prevalence of causal explanations in the former and teleological in the latter; closer links between the humanitarian paradigm and psychological practice; its correspondence to the post-modern image of science; its lack of methodological rigor characteristic of the natural-scientific paradigm which is oriented towards Positivist standards of the conduct of investigations; etc.

Differences of paradigm are reflected in the general image of the psychological science prevailing in the psychological community. Surveys of psychologists show that they classify psychology simultaneously as a biological, medical-behavioral, social-educational and humanitarian science and as a very special type of science (Rosenzweig, 1992), psychology being characterized differently in different countries and in different universities in the same country. M. Rosenzweig notes "the practice that already exists in several countries and universities of either classifying psychology in a class of its own, between the biological and the social sciences, or recognizing psychology as a science that overlaps the biological, behavioral, and the social science categories (Ibid., p. 71-72). One observes a curious link between a country's level of development and the status of psychology: in developed countries it is more frequently classified as a biological science than in less developed countries, whereas in the latter it is more often perceived as a social science (Ibid.). The fact that the paradigm which psychology regards as that of natural science is in effect a quasinatural-scientific paradigm does nothing to mitigate the contrast of paradigms. The "natural-scientific" elements in that discipline are ensured primarily by two methods: 1) by adhering to the Positivist standard of investigation associated with natural sciences; 2) by "tying in" psychological processes with their physiological substratum. The former method predominates, with the notable exception of biological trends[4]. The Positivist standard of research, the use of representative (or not too representative) samples, calculation of correlation coefficients, the use of more complicated mathematical procedures, attempts to fix independent variables, etc., look like an imitation of a research methodology characteristic of natural sciences and produce knowledge that is substantially different from natural-scientific knowledge as it does not meet the criteria of universality, reproducibility, etc. J. Pinel stresses the quasi-experimental characteristic of psychology, studies which "have the appearance of experiments but they are not true experiments because potential confounded variables have not been controlled - for example by random assignment of subjects to conditions" (Pinel, 1993, p. 10)[5]. Naturally, the psychologists who assert the "natural-scientific" nature of these studies (for many of them that is equivalent to being *scientific)* know it very well, but they prefer either not to notice the differences between psychology and the natural sciences or to pretend that these differences are not very important or fundamental. Yet the quasi-experimental nature of psychological studies is evident and what psychology regards as the natural-scientific paradigm is *oriented* towards natural sciences as a model of "scientific study" while not in reality sticking to the research

[4] According to J. Pinel they include: 1) physiological psychology; 2) psychopharmacology; 3) neuropsychology; 4) psychophysiology and 5) comparative psychology (Pinel, 1993).

[5] Calculations show that about 40 % of psychological studies are experiment-based, 36 % are based on polls, 16 % on controlled observation, 4 % on case studies and 3 % on cross-cultural methods (Rosenzweig, 1992).

standards of science. However, the fact that the "natural-scientific dream" is impossible makes the psychologists who dream not more but less tolerant of the adherents to the humanitarian paradigm who reject natural-scientific standards - probably because they are seen as one of the causes that put the dream out of reach.

The advances of biological science which gave rise to predictions that the 21s1 century will be the "age of biology" (The Next 25 Years of Technology, 1998) have raised expectations with regard to psychology. For example, in the US the 1990s were declared to be the "decade of the brain" on the grounds that more had been learned about its structure, functions, organization and activity during those years than in the preceding 100 years (Ibid.). This generated the expectation that increased knowledge of the brain would soon make it possible to tackle the basic social and psychological problems of mankind: among the predictions are the "psychoneurological revolution", heralding the advent of the "bioengineering era", in particular the prospect that brain biochemistry would make possible artificial memory by implanting electrodes into the brain, stimulating the brain's "pleasure centers", etc. (Ritchie-Calder, 1975)[6]. On the eve of the 27"' World Psychological Congress the journal European Psychologist interviewed 30 major European psychologists who were asked to name the main trends in the development of the psychological science that would determine its look in the 21st century. Practically all the respondents named the achievements of genetics and its huge impact on psychology as a key trend (Tele-interviews, 2000).

Without passing judgment on how realistic and well-grounded these forecasts are, let us note that they all predict that the psychological science will have a great impact on mankind, but they associate it not with the currently prevalent trends, but with the study of the brain. This perspective envisages gradual erosion not only of the humanitarian component of psychology, similar to the fading away of the philosophical surrogates of natural sciences that accompanied their development, but also of the quasi natural-scientific component of the natural-scientific paradigm itself as it relies on the study of the physiological substratum of mental processes and not on dubious correlations between its phenomenological manifestations.

## "Diagonal" Rupture

The rupture between the research (academic) and practical psychology, noted by many psychologists, has long been part of the "history of illness" of psychology and one of its key symptoms.

According to Van der Vleist, the research and practical psychologies are effectively two different sciences which use different languages, different units of analysis and different logic. The language of research psychology is replete with special terms whereas the language of practical psychology differs but little from the ordinary language. In research psychology the unit of analysis is a single psychological process or phenomenon artificially separated from the whole individual and placed in laboratory conditions whereas in practical psychology such a unit is the "case history" of an individual. The logic of research psychology consists in isolating 2-3 independent variables and measuring the correlations between them, whereas practical psychology rather than describing individual relationships in quantitative terms, seeks to gain a qualitative insight into the holistic determination of the personality and its states. (Van der Vleist, 1982). All the statistical sophistication of academic psychology becomes irrelevant on the "turf' of practical psychology which uses entirely different methods of obtaining and verifying knowledge, which intensifies the "bifurcation" of psychology even more than its "bifurcation" into natural-scientific and humanitarian paradigms. As a result practical psychology is not scientific enough, relying, as it does, not so much on scientific knowledge as on the personal experience and common sense of practical psychologists, and research psychology is not practical enough as it generates knowledge that is hard to apply in practice.

Still, the main dividing line between academic and practical psychologies is probably the divergence of corresponding *communities,* which warrants describing them as different *sociodigms* not reducible to Kuhn's paradigms and making it necessary to go beyond that concept. It has rightly been noted that academic and practical psychology are like two subpersonalities of a split personality: academic and practical psychologists have different circles of communication and different "authorities", practical psychologists do

[6] The author of this forecast predicts the possibility of telepathic capacity, which would make inroads on the mass media as a means of communication (Ibid.).

not know the names of the directors of academic institutions and academic psychologists do not know the names of the "star" psychological practitioners, etc.

At the end of the last century it was customary to note that the gap between academic and practical psychologists persisted and was widening, and in the opinion of some authors this was due to the fact that psychological practice was all too willing to absorb the methodology and culture of postmodernism whereas the conservative and slow-moving academic psychology was still wearing the long-outdated Positivist garb (Polkinhorne, 1994; Sass, 1994; Gergen, 1994; et al). As a result the standard product of psychological research — correlations between variables - fails dismally to meet the needs of psychological practice and in general is irrelevant outside academic psychology.

One of the key trends in the development of modern psychology is the changing correlation between academic and practical psychology. M. Rosenzweig, drawing on interviews with psychologists from various countries came to the following conclusion: "The practice that already exists in several countries and universities of either classifying psychology in a class of its own, between the biological and the social sciences, or recognizing psychology as a science that overlaps the biological, behavioral and the social science categories" (Rosenzweig, 1992, p. 32). Rosenzweig stresses that the same trend which he, like D. Polkinhorne (Polkinhorne, 1994), calls "shift to practice" (Ibid., p. 39) is manifested in various countries - the US, Australia, Canada, Finland, Germany, Norway, Portugal and Spain (Ibid.)[7]. The practical component of psychology also remains unchanged and is experiencing "technological advance" (Gergen, 1994), i.e. a transition from "soft" know-how that yields ambiguous results, such as psychoanalysis, to "harder" *technologies* that allow of replication and yield less ambiguous, "mechanical" results, such as polygraphs, couches and chairs for psychological relief, etc.

The separation of psychology into research and practical components need not be overestimated. Some of its branches, for example, humanitarian psychology, blend both. The stratum of "researchers close to practice" described by D. Polkinhorne (Polkinhorne, 1994) is rapidly swelling. The "pure" researcher who does not engage in psychological practice is gradually becoming a relic, and we witness if not conceptual, at least social coming together of the corresponding sections of the psychological community many of whose members do both. While previously one could hear that "there is nothing more practical than a good theory" the buzz word today is: "there is nothing more theoretical than good practice", which is of course debatable because "a good theory" is still "more theoretical". However, psychology is still a long way off from an organic mutual complementarity of science and practice that is characteristic of natural sciences, and the separation into research and practical psychology remains one of the key "ruptures" along with the other two.

## The Crisis of the Rationalistic Foundations of Psychology

The crisis of traditional - natural-scientific - foundations of psychology has rightly been linked with unsuccessful (though not useless) attempts to copy the natural science methodology and "weariness from Positivism" which embodied that methodology on the "turf of the psychological science. It has to be stressed that attempts to copy the natural science methods in psychology had only a tenuous connection with that methodology and were based mainly on the Positivist myths about it. Such myths can be reduced to six main misconceptions summed up by W. Weimer: 1) scientific knowledge is based on solid empirical facts, 2) theories are derived from facts (and consequently are secondary with regard to them), 3) science develops through gradual accumulation of facts, 4) because facts form the foundations of our knowledge they are independent of theories and have an intrinsic significance, 5) theories (or hypotheses) are logically derived from facts through rational induction, 6) theories (or hypotheses) are accepted or rejected solely on the strength of their capacity to withstand an empirical test (Weimer, 1976). The majority of psychological studies oriented towards natural-scientific methods proceeded from that image of science which M. Mahoney described, with some justification, as "fairytale" (Mahoney, 1976).

The image of scientific knowledge that succeeded the Positivist image and has taken shape in the work of such methodologists of science as T. Kuhn, I. Lakatos, P. Feuerabend, W. Cellars, St. Tulmin, M. Polani

[7] He also warns that as a result of this growing trend we run the risk of ending up with "psychology without science" (Ibid.).

and others is gradually penetrating science itself gaining ground on the Positivist image and the corresponding methodology. That is reflected in the socio-humanitarian disciplines where the Positivist model of obtaining knowledge based on the myths about natural sciences is also living through a crisis. And indeed, why follow the models of cognition accepted in physics, for example, if, first, physicists themselves do not follow them and, second, deviating from these models does not prevent them from gaining knowledge about physical reality successfully and "objectively"? It has to be noted, however, that there are symptoms of "weariness of post-modernism" which succeeded Positivism and the formation of a new, post-modernist methodology which retains the key ideas of post-modernism such as the inevitable theoretical "loading" of facts, the existence of rival and equally valid explanations, the impossibility of arriving at a definitive theory, etc., but free of its extremes such as P. Feuerabend's famous "anything goes" credo. Post-postmodernism is more moderate than radical postmodernism, its credo being "a lot, but not anything goes" and, adapting political terms, it can be described as "methodological liberalism" which, on the scale of methodological sentiments, lies in between "positivist totalitarianism" and "post-modernist anarchism".

However, while undoubtedly connected with these changes of the general methodological mood, the crisis of the natural-scientific foundations of psychology also has other roots in the *overall crisis of rationalism* that has swept the whole Western civilization. Paraphrasing M. Weber's famous expression, "rationalization of the entire social life" (Weber, 1958) it can be said that we are witnessing its total irrationalization today.

Back in the 1970s C. Sagan stated: "There is today in the West (but not in the East) a resurgent interest in vogue, anecdotal and often demonstrably erroneous doctrines that, if true, would betoken at least a more interesting universe but that, if false, imply an intellectual carelessness an absence of tough-mindedness and a diversion of energies not very promising for our survival". (Sagan, 1977, p. 247). C. Sagan included astrology, the teaching of auras, parapsychology and mysticism among such doctrines. In his opinion, their popularity reflects the aggressiveness of the more primitive — limbic -structures of the brain expressed in the "need to replace experiments by desires" (Ibid, p. 248). Thereafter "irrationalization of the entire social life" continued to mount[8]. In the 1980s, for example, there were more professional astrologists than professional physicists in the state of California. Today no more than 10% of American newspapers publish articles on science and technology while about 90% publish astrological forecasts. Other growth points are the industry of parapsychological and pop-psychological knowledge which seriously challenges scientific psychology, while psychological practice is not above taking on board pop-psychological and even openly esoteric elements, which has rightly been criticized (Pinel, 1993, etc.), something that was not observed formerly, for example when the foundations of scientific psychology were laid. Such phenomena are even more pronounced in some European countries. For example, in Russia there are more than 300,000 individuals such as astrologists, seers, magicians, ESP specialists, etc. who have the run of television and the mass media.

Also, the boundaries are being diluted between the traditional Western-style science and other world views such as the traditional Oriental science, para-science and religion. These systems are of a more general character than the paradigms and even sociodigms and, building on that terminology, they can be described as metadigms in the hierarchy of cognitive systems (see Table 1).

The main watershed between various metadigms consists in that they are based on different *types of rationality* of which, according to A. Crombie, humanity has worked out at least six[9] (Crombie, 1986). The main difference between the traditional Western science from other metadigms is that it is based on *rationalism* whose key features are causal determinism, the production of material effects exclusively by material causes, etc. Therefore the crisis of rationalism experienced by the modern Western civilization inevitably brings down the main barrier between science and other metadigms. And Western science itself is no longer strictly rationalistic because its methodology legitimizes the emotional involvement in the process

[8] Let it be noted that irrationalization can manifest itself in a variety of ways. One sign is that the professions connected with the entertainment industry and generation of *emotions* (sports, show business, etc.) are remunerated far more generously than the profession, for example, of a scientist which is connected with incremental increase of *knowledge.* The annual incomes of sports or show-biz stars who make no contribution to scientific-technical °r social progress are multiples of the size of the Nobel Prize.

[9] More can be identified.

of cognition and its ethic now prescribes not to seek *any* truth, whatever it is, but the kind of knowledge that will be useful to mankind.

Contributing to the bridging of the gaps between different metadigms is the fact that none of them is complete as a system of explaining the world, not being capable of explaining all the events experienced by mankind, which is why they routinely borrow explanatory schemes from each other. The need to borrow missing explanatory schemes is particularly pronounced in psychology because humans have a need to explain their own internal states, both physiological and psychological[10], and scientific psychology does not offer a complete set of explanatory schemes. Besides, the concepts it has developed do not always fit in well with day-to-day psychological self-analysis carried out by every individual. And such concepts as "biological field" which, unlike traditional psychological categories, can be sensed almost physically, fit in well with the subjective phenomenology of every individual and have a tremendous explanatory potential no matter whether biological fields exist in reality or not. Not surprisingly, the subject of day-to-day psychological experience and the practical psychology oriented towards it readily assimilate such concepts which, though formally regarded as para-scientific, penetrate the terminology of scientific psychology under the direct or indirect impact of practice (try to tell your client that biological fields do not exist if he is convinced that his neighbor's biological field makes his life miserable). Even greater explanatory and practical potential is offered by religious ideas which sometimes have a much more psychotherapeutic potential than the categories of scientific psychology and are actively used by practicing psychologists. Such situations demonstrate that science depends on society not only in social but also in cognitive terms, absorbing and including in the body of science the ideas generated by other metadigms, which is what is happening in psychology.

**Discipline out of joint**

Psychology is one of the most paradoxical disciplines. To add to its traditionally paradoxical character, its social boom is accompanied by its cognitive crisis. Modern society can be described as psychologized society because it shows concern with its psychological problems, takes for granted that these problems should be solved by psychologists and psychological services, exhibit excessive interest in psychological science and practice. There have emerged "niches" for psychologists in modern society. The main ones being recruitment, assessment and training of personnel of firms and organizations, the system of education, image-making, psychological support of sales and political campaigns, psychological help to individuals, etc. The modern man unlike, say, the Paleolithic man, always has psychological problems, unlike the Medieval peasant he is aware of them as psychological problems, and unlike the "builders of Communism" he generally understands that they should be solved with the help of professional psychologists and not the work collectives or alcohol. It is symptomatic that psychoanalysis is often described as the "new religion" of the modern Western (and lately not only Western) society. The total number of psychologists is skyrocketing, and this is happening in the countries that until recently denied the existence of psychological problems, which is natural because the main psychological problems of modern society, though differing from country to country, know no boundaries, unlike science. The social demand for psychological science and practice is constantly growing in the present-day psychologized society. That tends to enhance the prestige of the psychological profession, to increase the number of psychologists and the schools where they are trained, i.e. we witness a *quantitative growth* in psychology in various countries, which warrants describing it as an international phenomenon (Rosenzweig, 1992, etc.). This points to *asocial* boom of psychological science and practice, although psychological science stands less to gain from it than psychological practice.

At the same time, the traditional symptoms of the *conceptual* crisis of psychology - the extremely unsatisfactory state of psychological *knowledge* - persist and new symptoms are emerging. Psychology remains one of the most internally disjointed, dissociated disciplines, and its key "ruptures" are "vertical", i.e. between various schools, etc., "horizontal" between competing paradigms, and "diagonal" between

[10] A brilliant illustration is provided by the study of R. Kellog and R. Barron who have discovered that patients often prefer to be diagnosed with a more serious disease than to have no diagnosis at all because *any* explanation of their internal states has a tranquilizing effect (Kellog, Barron, 1975).

research and practical psychology. This disjointedness is compounded by the crisis of scientific rationality that affects psychological science as well.

Of course, the fact that psychology is thriving socially may blunt the psychologists' awareness of the methodological problems of their science in accordance with the pragmatic principle "it doesn't matter what psychological knowledge is as long as it is bought and demand for it is growing". However, society may sooner or later present claims to such knowledge and the cognitive state of the psychological science will have to be revised. The bloating of psychological practice without a solid support of its "rear" may create a "psychology bubble" similar to the "dot.com bubble" which may burst, leaving psychologists homeless[11]. Imagine what may happen if a psychoanalyst's permanent client who has paid him a hefty sum of money, suddenly discovers that all his actions had been based on myth and metaphor and hunches, and not on solid scientific knowledge, as the client had sincerely trusted. And what if the client, as psychoanalytical clients often do, turns out to be an influential and griping individual who is hurt by the very thought that he is being fooled and that his time and money had been wasted, and makes common cause with other such clients? Would it not result in high-profile trials of psychologists as quacks and trigger another witch-hunt, which, unlike former such hunts, would look like a well-deserved retribution for cheating society over so many years. It may be a fantastic prospect, but then it is no less fantastic than the unification of the whole psychology on the foundations of natural sciences, i.e. bringing it in line with the image formed by the typical user of psychological knowledge.

**REFERENCES**

1. **Agnew, N.M., Pyкe, S.W.** (1969). *The science game. And Introduction to Research in the Social Sciences*. New Jersey: Prentice-Hall, 1987.

2. **Campbell, D.T.** (1988). *Methodology and epistemology for social science*. Chicago: University of Chicago Press.

3. **Crombie, A.C.** (1986). *What is a history of science*. History of European Ideas, 7 (1), 21-31.

4. **Danziger, K.** (1985). *The methodological imperative in psychology*. Philosophy of the social sciences, 15, 1-13.

5. **Eiduson, T, Brown, H.** (1962). *Scientists: Their Psychological World*. NY: Basic Books.

6. **Gergen, K.J.** (1994). *Toward a postmodern psychology.* In S. Kvale (Ed.) Psychology and postmodernism. London: Sage Publications, 17-30.

7. **Granet, M.** (1961). *The Tao. Theories of society*. Talcott Parsons, Edward Shils,KasparD. Naegele, Jesse R. Pitts (Eds). Vol. II. NY: Free Press, 10981101.

8. **Huffman, K, Vernoy, M., Vernoy, J.** (1994). *Psychology in action*. NY: John Wiley & Sons, Inc.

9. **James, W.** (1890). *The principles of psychology*. Vol. 1. Cambridge, MA: Harvard University Press.

10. **Franklin, C.W.** (1982). *Theoretical perspectives in social psychology*. Boston: Little, Brown and Company.

11. **Huxley, L.** (1902). *Life and letters of Thomas Henry Huxley*. London: Macmillan.

12. *An exclusive interview with Mihaly Csikszentmihalyi* (D. Leontyev, September, 2005) - retrieved from http://www.positivepsychology.m/history/ interview.htm

13. **Hjelle, G.A., Ziegler, D.J.** (1992). *Personality theories: Basic assumptions, research, and applications*. NY: McGraw Hill, Inc.

14. **Kellog, R., Baron, R.S.** (1975). *Attribution theory, insomnia and the reverse placebo effect: Reversal of Storms and Nisbett findings*. Journal of Personality and Social Psychology, 32 (2), 231-236.

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15. **Kuhn, T.** (1962). *The structure of scientific revolutions*. Chicago: University of Chicago Press.

16. **Mahoney, M.J.** (1976). *Scientists as subjects: The psychological imperative*. Cambridge, MA: Ballinger.

17. **McGuire, W.J.** (1976). *The Yin and Yang in social psychology: Seven Koan*. In McGuire W.J. (Ed.), Social psychology in transition. NY: Plenum Press, 33-50.

18. **Ohlsson, S.** *Psychology is about progress.* Integrative psychological & behavioral science, 41 (1), 28-34.

19. **Pinel, J.P.J.** (1993). *Biopsychology*. Boston: Allyn and Bacon.

20. **Richards, G.** (1987). *Of what the history of psychology is a history*. British journal for the history of science, 20 (65), 201-211.

21. **Ritchie-Calder, L.** (1976). *The next billion years start now.* In G. Leinwand (Ed.) The future. NY: Pocket Books, 206-214.

22. **Rosenzweig, M.R.** (1992). *What is psychological science*. In M. R. Rosenzeig (Ed.) International psychological science: Progress, problems, and prospects. Washington: American psychological association.

23. **Polkinhorne, D.E.** (1994). *Postmodern epistemology and practice*. In S. Kvales (Ed.) Psychology and postmodernism. London: Sage Publications, 146-165.

24. **Sagan, C.** (1977). *The Dragons of Eden*. NY: Ballantine Books.

25. **Sass, L.A.** (1994). *The epic of disbelief: The postmodernist turn in contemporary psychoanalysis*. In S. Kvale (Ed.) Psychology and postmodernism. London: Sage Publications, 166-182.

26. **Smith, N.W.** (2001). *Current systems in psychology: History, theory, research, and applications*. Wadsworth: Thomson Learning.

27. *Tele-interviews* (2000). European Psychologist. Vol. 5. N 2.

28. *The next twenty-five years of technology: opportunities and risks* (1998). In 21-st century technologies: promises and perils of dynamic future. OECD, 33-46.

29. **Takasuna, M.** *Proliferation of Western methodological thought in psychology in Japan: Ways of objectification.* Integrative psychological & behavioral science, 41 (1), 83-92.

30. *The social psychology of knowledge*. Bar-Tal, D. and Kraglanski, A.W. (Eds.), (1988). Cambridge: Cambridge University Press.

31. **Toomela, A.** (2007). *Culture and science: Strange history of the methodological thinking in psychology*. Integrative psychological & behavioral science, 41 (1), 6-20.

32. **Van der Vleist, R.** (1982). *Special psychological theory and empirical studies of practical problems*. In Confronting social issues: Applications of social psychology. London: Academic Press. Tajfel, H (ed), 1, 7-22.

33. **Weber, M.** (1958). *The protestant ethic and the spirit of capitalism*. NY: Scribner.

34. **Weimer, W.B.** (1976). *Psychology and the conceptual foundations of science*. New Jersey: Hillsdale.